

Why words get stuck on the tip of your tongue, and how to stop it recurring

Someone in a tip-of-the-tongue state will invariably write about as if in some physical discomfort. 'I know it, I know it, hang on...' they will say. Finger snapping and glances to the ceiling might follow, before a final grunt of frustrated submission – 'No, it's gone.'

Psychologists studying this phenomenon say it occurs when



In *Cognition*

there is a disconnect between a word's concept and its lexical representation. A successful utterance requires these two steps to be bridged, but in the tip-of-the-tongue state, only the concept is activated (and possibly a letter or two) while the complete translation into letters and sounds fails. What's more, new research shows the very act of being in this state makes it more likely that it will recur.

Maria D'Angelo and Karin Humphreys provoked their participants into experiencing tip-of-the-tongue states by presenting them with the definitions for rare words (e.g. 'What do you call an instrument for performing calculations by sliding beads along rods or grooves?'). Sometimes the students knew the word straight-off, other times they said they simply didn't know, but occasionally – and these were the important trials – they said they definitely knew the word, but couldn't quite spit it out.

The researchers quickly (after 10 or 30 seconds) put the students out of this last, uncomfortable tip-of-the-tongue state by telling them the answer. However, a key finding was that being in a tip-of-the-tongue state for a particular word on one

occasion increased the likelihood of being in that state again for the same word on later re-testing, whether that second test came five minutes, 48 hours or one week later (thus replicating and extending previous research by the same lab). This recurrence is despite the fact of having been told the word after the initial tip-of-the-tongue state.

This suggests the state involves an unhelpful learning process. Imagine a hiker who is lost en route to his destination – this is your brain trying to find the path between word concept and letters and sounds. The findings suggest that walking the wrong route once actually makes it more likely you'll get lost again as you unintentionally come to learn the wrong way to your destination.

Consistent with this account, spending more time deliberately but unsuccessfully attempting to resolve a tip-of-the-tongue state made it even more likely that it will recur (but note, contrary to the researchers' prior work, this time this effect was only found when participants put a lot of unsuccessful effort into resolving the tip-of-the-tongue state).

In real life, this means that if you're hopping about in a frustrated tip-of-the-tongue state and I tell you the word you're hunting for, I won't have done you any favours – next time you need that word, you're likely to get stuck again. The researchers believe this is because although I've told you the word, you haven't arrived at it through your own word-searching processes. To follow the hiking analogy, it's a bit like I've picked you up by car and fast-tracked you to your destination – by doing so, I will have done nothing to teach you the correct route.

So, is there anything you can do to help a person in a tip-of-the-tongue state? A clue comes from the fact that when the students in these experiments spontaneously resolved a tip-of-the-tongue state (i.e. they finally managed to find the word before the researchers told it to them), they were subsequently far less likely to get stuck again. Such spontaneous resolutions suggest that the word-search process has managed to resolve itself and when this happens, the correct concept-word connection is usually remembered. This is like the lost hiker managing to find his own way to the destination and remembering the route for future use.

The way to help someone in a tip-of-the-tongue state, then, is to nudge them towards a spontaneous resolution. When the researchers helped their student participants resolve a tip-of-tongue state by giving them the first few letters of the solution, this prevented the state from recurring on later testing. Point the hiker in the right direction and if he finds the right way himself, he will remember the correct route in future. This nicely complements an established phenomenon from research on word learning known as the generation effect: that is, generating words from clues (such as a word stem) leads to better memory for those words than being told them whole.

'These findings may have potential applications for both educational, and therapeutic settings, in which a student or a patient with neurological damage is trying to retrieve a difficult item,' the researchers concluded. **CJ**

Drawing cancer

In *Psychology and Health*

Early diagnosis of cancer can save lives, yet so many people wait before reporting important symptoms. A pilot study uses an unusual approach to explaining why, by asking skin cancer patients to draw their melanomas.

Suzanne Scott at King's College, London and her colleagues recruited 63 skin cancer patients (average age 64), around half of whom had a thinner melanoma, and half a thicker melanoma (prognosis is poorer for the latter group). Four of the patients had had their melanomas spotted opportunistically by a clinician; the others had waited between 1 week and 303 weeks before reporting their first symptoms.

All were asked to produce annotated drawings of their melanoma as it looked when they first noticed it, and how it changed over time. Fifty-three of the patients agreed (three had their wife or daughter produce the drawings), while four were unwilling or unable to do the drawing. Overall, this suggests that the idea of drawing their symptoms is acceptable and practical for most patients. Men tended to produce more drawings than women. In all, 137 drawings were produced by 53 patients.

The researchers said the level of detail produced shows that most patients tend to pay attention to their skin changes, but that they often don't act on the changes. This implies that public health interventions need to do more to educate people about the meaning of their skin changes and when it is appropriate to seek help.

Another key finding was that patients' drawings correlated in size with their actual melanomas (as measured in histology photos), and yet there was no correlation between size of drawings and the time taken to seek medical help. The researchers said this further suggests that it is likely that it is patients' interpretations of the meaning of their symptoms, rather than their perception of the physical nature of the symptoms *per se*, that explains their decisions as to whether or not to seek help. It's also notable that patients often depicted changes in size and colour in their drawings (two key diagnostic features), but other important factors including shape and border irregularity were rarely depicted.

The study is limited by the small sample size and the reliance on asking patients to remember how they had perceived their melanomas. Nevertheless, the researchers concluded that 'patient drawings add a deeper understanding of patient perception of their lesion... [and] can facilitate discussion of symptoms perception and appraisal.' **CJ**

New method reveals our 'blatant dehumanisation' of minority groups

In *Journal of Personality and Social Psychology*

Ghanaian footballer Emmanuel Frimpong's match in Russia recently ended nastily: 'When the match was stopped,' he said, 'the fans started shouting "monkey" at me.' Redefining human beings as animals in this way, or as vermin, or insects, is no small thing; time and again it has augured the worst that our species has to offer.

In the wake of the Holocaust, early researchers sought to understand blatant dehumanisation, such as people's greater willingness to apply an electric shock to subjects who were depicted as inhuman. More recently, researchers have turned to studying 'infrahumanisation': a more subtle variant where certain groups are assumed to be less prone to embarrassment, compassion or other more sophisticated human emotions. But blatant dehumanisation is still with us, and a new paper suggests that by measuring it we can better predict people's intentions (especially when they're feeling threatened) towards degraded minority groups.

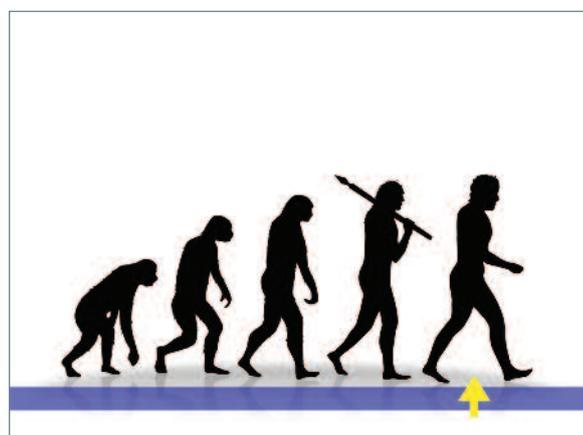
Across several online surveys, hundreds of US and British participants were asked a host of attitudinal questions and asked to rate different ethnic groups on how evolved they were, using a graphic depicting the famous 'Ascent of Man'.

By setting a slider somewhere between the two ends, participants were free to consign ethnic groups to being less than human. Initial results found US citizens dehumanise Arabs and Muslims the most, so the paper focuses on these groups, although a similar, weaker pattern of results was also for the other groups, such as South Korean or Mexican people.

Where the US participants placed the Arabs on the Ascent scale turned out to be revealing of their wider attitudes:

it correlated with their desire for reducing Arab immigration, lack of sympathy towards an unjustly treated delinquent teen of Arab ethnicity, and endorsement of acts of violence, such as advocating torture or bombing an entire Arab country (this was true even after controlling for measures of infrahumanisation).

The scale seems particularly useful when the in-group feels under direct threat of violence. In the two weeks following the Boston Marathon bombing, US participants showed significantly higher Arabic dehumanisation on the Ascent scale than in data collected two months before. This was again a strong predictor of many of the measures described above and of eliminativist attitudes such as agreeing with a tweet that all Muslims should be wiped off the face of the earth. A similar result was obtained with a British sample following the murder by Islamic converts of the off-duty



British soldier Lee Rigby: dehumanisation of Muslims was high, and this time correlated with support for drone strikes, punitive treatment of the perpetrators, and aggressive counterterrorism policy against Arabs and Muslims.

In this paper's initial surveys, the measures of more subtle dehumanisation (infrahumanisation) had offered some explanatory value, sometimes overlapping with the Ascent scale results, sometimes complementing them. This was much less so in these last two post-crisis



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situations. Pre versus post Boston Marathon, the participants' subtle dehumanisation scores didn't budge, failing to reflect the overt changes in attitudes evinced by the participants (on immigration etc.), or the hostile advocacy of the US-Boston participants and the UK-Rigby participants.

This is not to say that measures of infrahumanisation are redundant – they capture a different aspect of 'Othering', one that could occur in low-stakes, everyday interactions. But this more subtle dehumanisation appears to shift more slowly – perhaps through the drip-drip of culture – whereas blatant dehumanisation, as measured by the Ascent scale, seems to better capture our states of mind in volatile contexts. In an age where nationalism and ethnic identity are returning to the political centre stage – from the rise of the European far-right to the emergence of the so-called Islamic State which treats those unlike themselves as non-human – it's important that we are able to measure and understand this treatment of 'the other'. **AF**

Experiences of adults with 'selective mutism', in their own words

In *Qualitative Research in Psychology*

Some people have a condition that means in most situations, they can't speak. There's nothing wrong with their tongue or vocal chords, and they don't have 'aphasia' which is when brain damage affects speech. Yet most of the time, they feel completely unable to speak.

In 1934 the term 'elective mutism' was coined to describe this condition based on the idea that people fitting the diagnosis were choosing to remain silent. But the favoured term, at least in the UK, has since changed to 'selective mutism' to reflect the fact that for many, their inability to talk in some situations does not feel like a choice. For instance, someone with selective mutism might talk perfectly normally when home alone with their parents or other close family, but find themselves totally incapable of speech in public or at school or work.

Psychologists have struggled to explain selective mutism – some have suggested it is an extreme manifestation of social anxiety; others point to links with autism. What has been almost completely missing from the literature so far has been the perspective of people with selective mutism. Helping to fill that gap, a new study presents the experience of five people with the condition, in their own words. Four of the participants were interviewed at length using instant messenger (a text-based way to converse) on Skype, and the fifth 'participant' was the study co-author Aaron Walker, a prize-winning psychology student who has largely overcome his selective mutism and who provides his own reflections from diary extracts.

Analysing the interview transcripts, Walker and his colleague Jane Tobbell identified several key themes, some of which challenge the idea that people with mutism are choosing to stay silent. One theme was the participants' sense of separation from their mutism, as if it was not a part of their true identity. Hannah, aged 26, was diagnosed at age 17 and has since then only been able to speak verbally with her parents. She described this sense of dissociation: 'It isn't me. I know who I am and I'm not shy or quiet, maybe that makes it harder. When I'm with my parents I can be myself but around everyone else it's like it [selective mutism] takes over. I can get the words in my head but something won't let me say them and the harder I try the more of a failure I feel like when I can't.'

The participants also described how their silence became self-fulfilling as others came to expect them to be voiceless. Sam, 21, has had selective mutism since the age of eight and is only able to speak to his parents and close friends whom he knew before that age. He put it like this: 'When I was at secondary school, because no one expected me to say anything it became kind of impossible to say anything, like, other kids just avoided me. Even the teachers would treat me differently. In History class the teacher would just skip past me when we had to read things out. On one hand it helped, I wouldn't have been able to talk anyway.'

The researchers said examples like this show how selective mutism is maintained not only through the behaviour of the person with mutism, but also through the expectations and behaviours of others. Not surprisingly, this leads to extreme feelings of isolation for people with mutism. Ben, 30, has had selective mutism since early

LINK FEAST



Why Do Babies Laugh Out Loud?

'Babies can't possibly get a joke, so what causes their giggles? The answer might reveal a lot about the making of our minds,' says Tom Stafford at *BBC Future*.
www.bbc.com/future/story/20150728-why-do-babies-laugh-out-loud

The Virtues of Cold Blood (audio)

Sam Harris interviews psychologist Paul Bloom about the limitations of empathy as a guide to moral reasoning.
www.samharris.org/blog/item/the-virtues-of-cold-blood

Making Friends in New Places

The first three weeks are crucial, says Nicholas A. Christakis at the *New York Times*.
www.nytimes.com/2015/08/02/education/edlife/making-friends-in-new-places.html

Experimental Psychology: The Anatomy of Obedience

Brendan Maher at *Nature* reviews two films probing notorious US psychological experiments.
www.nature.com/nature/journal/v523/n7561/full/523408a.html

Are You a Head Person or a Heart Person?

At *New York* magazine, Digest editor Christian Jarrett looked at research that says your answer to this question is telling.
<http://nymag.com/scienceofus/2015/07/are-you-head-person-or-heart-person.html>

Facing Shadows (YouTube video)

In April 2015 seven young people who had been to a Child and Adolescent Mental Health Service (CAMHS) for help with their depression came together, with the aim of making a short, animated film about what it is like to suffer from depression as a teenager.
www.youtube.com/watch?v=LdmRPKUhNEY



'...stuck outside looking in'

childhood and he painted a vivid picture of his loneliness: 'It's like that scene from *Scrooge* where he looks through the window and he can see people having fun being together. I'll always be stuck outside looking in.'

The final theme related to the participants' feelings of regret for a wasted life, their lament for the 'normal life' they had missed out on. Lily, 23, was diagnosed at the age of 12. She said: 'A lot of the time I worry about things I haven't done, that I should have.' [Interviewer: What kind of things?]. 'All the things normal people do. I could have gone to university, I always did well at school. But it was different there, teachers knew about my problem. Maybe I'd have been able to get a job and be in a relationship. A lot of the time I imagine what my life would be like if I didn't have selective mutism.'

On a more positive note, Walker [the co-author with selective mutism] said that he had managed to achieve some kind of normality. Not only can he give lectures, which once would have 'seemed unimaginable', but, he added, 'even small everyday things such as asking for a train ticket or ordering a meal are reminders that selective mutism can be overcome'.

This study helps us understand the lives of people with selective mutism, thereby making a valuable addition to a scholarly literature that is dominated by the perspectives of parents, teachers and clinicians. While it's not clear how representative the findings are of other people's experiences with the condition (a contrasting 2007 interview-based study talked of people with mutism being 'strong willed' and having a 'conscious determination not to speak'), Walker and Tobbell make a powerful point: '...this study', they said, 'has demonstrated that there are ways to hear the voices of those with selective mutism, if we are willing to listen'. CJ

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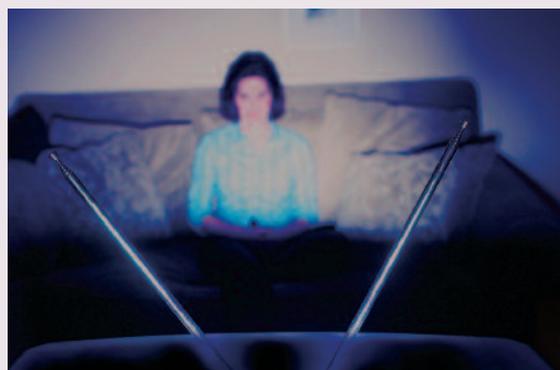
A survey of the UK autism community has uncovered a plurality of views on the most appropriate way to refer to the condition. So-called autism-first terminology, as in 'autistic person', is favoured by autistic people, while researchers prefer person-first terminology, as in 'people with autism'. *Autism*



The smell of fish improves people's reasoning skills. Researchers found that people exposed to the smell of fish were less prone to a trick question ('How many animals of each kind did Moses take on the Ark?') and less vulnerable to the confirmation bias. *Journal of Experimental Social Psychology*

An intervention designed to reduce sexism among male undergraduates has met with mixed results. The procedure involves participants in a group challenging sexist remarks. Overall, participants' sexist attitudes were reduced, but the exercise had no impact on rape-related attitudes or on beliefs how many other men endorse sexist attitudes. *Gender Issues*

Researchers have uncovered bi-directional influences between personality and loneliness. Specifically, people who scored higher in neuroticism in their twenties tended to be lonelier in mid-life; and people who felt less well and lonelier in their twenties tended in mid-life to score higher on neuroticism, but lower on extraversion and conscientiousness. *Journal of Personality*



The reason why sensory metaphors are so popular is that they are easier to remember than their non-metaphorical equivalents. What's more, an analysis of sensory metaphors used in millions of books published since 1800 found that those that sustained their popularity were easier for contemporary students to remember. *Journal of Personality and Social Psychology*

Women rate men as more attractive when they're pictured alongside a handsome son, as compared with when they're pictured alongside a less attractive son. It's argued that the presence of the handsome son is taken as a sign that the father has good genes, thus increasing his appeal as a mate. *Archives of Sexual Behaviour*



A survey of undergraduate drinkers has uncovered a preliminary taxonomy of drunken personality types: 'Hemingways' who are little affected by intoxication; 'Nutty Professors' who become highly extraverted; 'Mary Poppins' who remain pleasantly agreeable when drunk; and 'Mr Hydes' who show large decreases in agreeableness and conscientiousness. It's hoped the findings will help explain why some students behave in harmful ways when drunk while others don't. *Addiction Research & Theory*